

Claims

- [c1] 1. A software method in a computer system for automatically analyzing relationships between target and source documents, comprising the steps of:
 - receiving an autolink command by a link analysis server from an application program;
 - accessing a processing profile identified in the autolink command;
 - accessing source and target document data identified in the autolink command;
 - performing a link analysis for identifying relationships based on comparing similarity scores between target and source documents; and
 - sending a response containing a link analysis result to the application program.
- [c2] 2. The method of claim 1, wherein the step of receiving comprises receiving an autolink command by a link analysis server from a user interface program connected to the link analysis server.
- [c3] 3. The method of claim 1, wherein the step of accessing a processing profile further comprises:
 - identifying an options element;

identifying a threshold limit element defining a path to threshold limit values;

identifying a mapping element for defining mappings between source and target document data;

identifying an output element for defining output attributes including detail level 1, detail level 2, detail level 3, detail level 4, persistence level 1, persistence level 2, persistence level 3, and persistence level 4;

and

identifying a datasource element for defining a persistence data source.

[c4] 4. The method of claim 3, wherein the step of identifying an options element further comprises:

specifying a stop-on-count attribute;

specifying an analysis-type attribute, including single, multiple and group values;

specifying a count-type attribute, including match-count, statistical and threshold;

specifying a minimum and maximum number of document links to be found;

specifying threshold limits for defining ranges of similarity scores for indicating linked relationships, including attributes greater-than, greater-than-and-equal-to, less-than, less-than-and-equal-to, equal-to, and not-equal-to; and

specifying scoring aggregation options, including attributes include-minimum, include-maximum, and average-top-N-scores.

- [c5] 5.The method of claim 1, wherein the step of accessing a processing profile comprises accessing a processing profile embedded inline in the autolink command.
- [c6] 6.The method of claim 1, wherein the step of accessing a processing profile comprises accessing a processing profile from a persistence database.
- [c7] 7.The method of claim 1, wherein the source document data comprises an inline designation attribute, one or more source document key attributes, a no-source attribute for indicating target documents are compared to each other, a query attribute, a database attribute, a cache designation attribute, and a block size attribute.
- [c8] 8.The method of claim 1, wherein the step of accessing source document data comprises accessing source document data embedded inline in the autolink command.
- [c9] 9.The method of claim 1, wherein the step of accessing source document data comprises accessing source document data from a similarity search server by issuing a query command to the similarity search server from the link analysis server.

- [c10] 10. The method of claim 1, wherein the target document data comprises an inline designation attribute, one or more source document key attributes, a query attribute, a database attribute, a cache designation attribute, and a block size attribute.
- [c11] 11. The method of claim 1, wherein the step of accessing target document data comprises accessing target document data embedded inline in the autolink command.
- [c12] 12. The method of claim 1, wherein the step of accessing target document data comprises accessing target document data from a similarity search server by issuing a query command to the similarity search server from the link analysis server.
- [c13] 13. The method of claim 1, wherein the step of performing a link analysis for identifying relationships is based on a comparison selected from the group consisting of:
 - comparing one source document with many target documents;
 - comparing multiple source documents with multiple target documents in different groups; and
 - comparing multiple documents within a group with each other.
- [c14] 14. The method of claim 1, wherein the step of sending a

response is selected from the group consisting of:

- sending a response containing an error message;
- sending a response containing a count of link matches;
- sending a response containing a count of link matches and source documents;
- sending a response containing a count of link matches, source documents and document scores that were used in a link match result; and
- sending a response containing a count of link matches, source documents, document scores and document attribute scores that were used in a link match result.

- [c15] 15. The method of claim 1, further comprising the step of storing the response containing the link analysis result in a persistence database.
- [c16] 16. A computer-readable medium containing instructions for controlling a computer system according to the software method of claim 1.
- [c17] 17. A software system for automatically analyzing relationships between target and source documents, comprising:
 - means for receiving an autolink command by a link analysis server from an application program;

means for accessing a processing profile identified in the autolink command;
means for accessing source and target document data identified in the autolink command;
means for performing a link analysis for identifying relationships based on similarity scores between target and source documents; and
means for sending a response containing a link analysis result to the application program.

[c18] 18. The system of claim 17, wherein the application program is a user interface connected to the link analysis server.

[c19] 19. The system of claim 17, wherein the autolink command comprises an embedded inline processing profile, embedded inline source document data and embedded inline target document data.

[c20] 20. The system of claim 19, wherein the processing profile is accessed from a persistence database.

[c21] 21. The system of claim 19, wherein the source document data is accessed from a similarity search server.

[c22] 22. The system of claim 19, wherein the target data is accessed from a similarity search server.

- [c23] 23. The system of claim 17, wherein the processing profile comprises an options element, a threshold element, a mapping element and an output element for designating a persistence database.
- [c24] 24. The system of claim 17, wherein the means for receiving an autolink command comprises an input processing section of the link analysis server.
- [c25] 25. The system of claim 17, wherein the means for accessing the processing profile, the source document data and the target document data comprises a data manager section of the link analysis server.
- [c26] 26. The system of claim 17, wherein the means for performing a link analysis comprises an engine manager section containing an engine core within the link analysis section.
- [c27] 27. The system of claim 17, wherein the means for sending a response is an output section of the link analysis server.
- [c28] 28. The system of claim 17, further comprising a data persistence section of the link analysis server for storing response results.
- [c29] 29. A software method in a computer system for auto-

matically analyzing relationships between target and source documents, comprising the steps of:

receiving an autolink command by a link analysis server from a requesting application designating a processing profile, target documents and source documents;

accessing the processing profile from a database;

accessing similarity scores between attributes of the target documents and attributes of the source documents from a similarity search server;

linking target document attributes and source document attributes within the link analysis server based on comparative values of attribute similarity scores;

sending results of the linking step to the requesting application; and

saving the results in a persistence database.

- [c30] 30. The method of claim 29, wherein the processing profile is embedded inline in the autolink command.
- [c31] 31. The method of claim 29, wherein the target document attributes and associated schema are embedded inline in the autolink command.
- [c32] 32. The method of claim 29, wherein the source document attributes and associated schema are embedded inline in the autolink command.

